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ALBUM

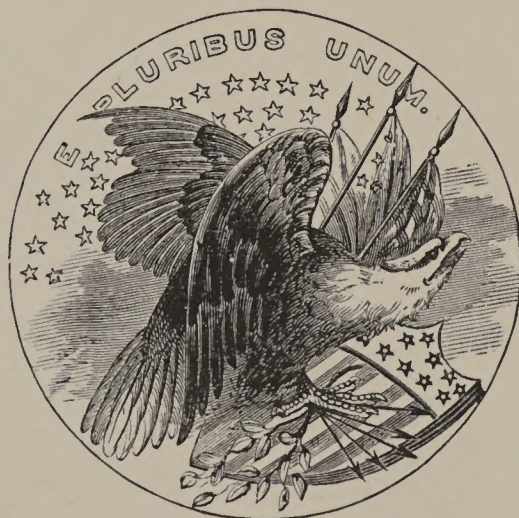
OF

AGRICULTURAL STATISTICS

OF THE UNITED STATES.

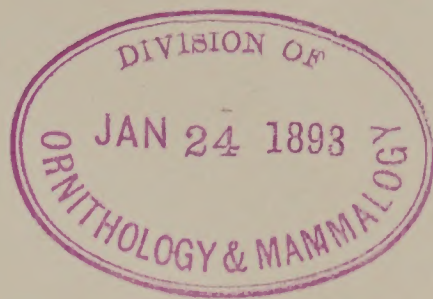
RESULTS OF OFFICIAL STATISTICAL INVESTIGATION.

BY J. R. DODGE, Statistician.



WASHINGTON, D. C.

MDCCCXCI.



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LETTER OF SUBMITTAL.

DEPARTMENT OF AGRICULTURE,
OFFICE OF STATISTICIAN,
June 10, 1891.

SIR: The first edition of the Album of Agricultural Statistics, issued two years ago, was received with great favor by students of rural economy in this and other countries. Its limited numbers, (10,000 copies) were found to be entirely inadequate even to the requirements of a restricted and conservative scheme of distribution. The present edition of 15,000 is especially intended for libraries of reference and schools and colleges in which industrial art and social science have a prominent place.

In obedience to the public demand for graphic illustrations of statistics, which has often been reiterated, maps, charts and diagrams have from time to time been prepared, by the Statistician, for international and other exhibitions, and for educational institutions. Only a single copy of each was made, in some instances on a large scale, elaborate and expensive, for exhibition purposes. There have been urgent and repeated calls for popularization of such illustrations, by cheapening their cost and multiplying their numbers, and a more general distribution to societies, schools and individuals. The annual report, of which 400,000 copies are distributed, has furnished a medium for presentation, generally in single page diagrams, of some of the more striking and instructive facts of American agriculture, familiarized the people with this method of interpreting statistics, and excited a desire for further elaboration of methods so interesting and educational in their uses.

The work contains sixteen colored maps of the United States, each presenting a separate topic, as follows:

LIST OF ILLUSTRATIONS.

- | | |
|---|---|
| I. Percentage of unoccupied and of farm lands, comprising the superficial area of each State. | VIII. Yield of oats per acre in each State. |
| II. Percentage of each grand division of farm area in each State. | IX. Average value of horses in each State. |
| III. Acreage in corn, per 1,000 acres of superficial area, in each State. | X. Average value of cattle (exclusive of milch cows) in each State. |
| IV. Acreage in wheat, per 1,000 acres of superficial area, in each State. | XI. Average value of milch cows in each State. |
| V. Acreage in oats, per 1,000 acres of superficial area, in each State. | XII. Average value of sheep in each State. |
| VI. Yield of corn per acre in each State. | XIII. Average value of swine in each State. |
| VII. Yield of wheat per acre in each State. | XIV. Rural population of the United States, as a percentage of the total population, by States. |
| | XV. Average value of lands in the United States. |
| | XVI. Farm tenures in the United States. |

These maps are mainly based on results of past investigation conducted by the Statistician. The distribution of each of the three principal cereals, which together include all but three per cent. of cereal production, has so remarkable a differentiation and so extreme a range, as to justify its selection as a leading topic. The rate of yield, based on yields of ten annual crops, showing the results of climatic adaptation, differing soils and methods of culture, is another topic fruitful in suggestion, and thus worthy of consideration. The average values of farm stock in different sections are equally suggestive of differences in breed, degree of improvement, and effect of distance from market. It is hoped that the results here embodied, in matter and form, will be found worthy of this presentation.

HON. J. M. RUSK,
Secretary.

J. R. DODGE,
Statistician.

ALBUM OF AGRICULTURAL STATISTICS.

This graphic presentation of statistical data is limited to classes of facts existing in every portion of the national territory. A distribution involving only a part of the public domain is not suited to the form of illustration adopted. Cotton, tobacco, flax, even the minor cereals, and many other products, must be treated in a different manner, and hence are not included in this geographical method of presentation. There will be opportunity hereafter for discussion of other topics by other and suitable methods.

Graphic illustrations should never be involved or obscure. A complication of forms and ideas should be avoided. Simplicity and unity are prime characteristics of every attempt to interpret facts and figures by form and color. The basis of this album is, therefore, made a map of the United States. To avoid extraneous considerations, an outline of the territory, divided by State boundaries, is left unincumbered by indications of mountains, streams, cities, or towns.

Some of these maps represent three or four constituent parts of a whole, showing by States the relative proportion of each, without reference to volume or quantity. Figures in the form of semicircles, which are equal in size for each State, are divided by segments representing the relative proportion of each constituent factor. This eliminates all considerations except the one idea of relative proportion, and enables one to make comparison, in this respect, of each State with every other.

A large number carry the single idea of geographical distribution, as of the relative area of certain principal cereals in the several States, the differences in rate of yield of certain products, and the average prices of farm animals. The local differences, in these respects, are first indicated by placing States in five groups each having a certain range of differentiation, and giving to each a grade of density of color and

a distinct peculiarity of mechanical drawing, making the gradation between the groups doubly easy of discrimination.

It is desirable, however, to make closer comparison than is shown in five classes or groups. The range of differences within a group may be considerable; therefore, in several of these maps, a scale is made, with the average for the United States as zero; and the percentage of each State above or below this average is indicated in plain figures, with the plus or minus prefix, enabling one not only to see the exact relation of each State to the national average at a glance, but also to find as readily the relation between any one State and any other.

Upon each map there is placed a table which gives the figures on which the graphic delineation is based. With all the aids to quick apprehension of the meaning of the presentation, a simple and appropriate graphic method, ample explanation, and the entire body of fact which the map illustrates, it is believed that the series will prove an instructive and valuable means of popular education.

In the first map of the series, the blue section of each semicircle shows where the land not yet taken for farms is found. Blue is the almost exclusive color west of the Missouri, it takes large proportion in the South, and in the Eastern and Middle States it covers a much larger part of the surface than in the Ohio Valley. In the whole country it represents 711 in every 1,000 acres. The farm lands comprise 289 acres in every thousand, of which 153 are productive or "improved area," 103 are in woodland, and 33 acres are unproductive, including old fields, swamps, ledges, and other technically "waste" areas, most of which are susceptible of improvement or reclamation.

Relative to woodlands, it should be carefully observed that only the forest lands in farm areas have ever been reported by the census. The area "not in farms" has woodlands also;

in the South it is nearly all in wood; in the Eastern and Middle States it is mainly wooded area, though the timber has been culled more or less closely in much of it; while in the western regions of prairies and plains, only the valleys of streams and sheltered slopes of mountains are covered with woody growths, a part in the western coast very heavy, and other portions in the Rocky Mountains thin and scattered. It is probable that in the total area, including that portion not divided into farms, the forest growth would approximate 250 acres in every thousand.

The second map of the series includes only the farm area, and divides productive lands into tillage and grass lands. The farms of the Rocky Mountain region show a large proportion of "unproductive lands," not because of their want of fertility, but from insufficient means for irrigation and other preparation for use. Their owners are providing areas for future utilization. The proportion of woodland is not a percentage of the total land area, but of the farm area. The range is very wide, from a fraction of one per cent. in Utah to sixty-six per cent. in Florida. Going eastward from the central mountain plateaus, it is 3.3 per cent. in Nebraska, 11.2 in Iowa, 15.6 in Illinois, 29.1 in Indiana, 24.4 in Ohio, 29.4 in Pennsylvania, and 24.1 in New Jersey.

The third map illustrates the distribution of maize, the most generally cultivated, occupying the largest acreage, and producing the largest value of any crop in arable culture. It is now found in every part of the national domain, and was cultivated by the aboriginal races before the advent of the white man, and also by the prehistoric races of whose lives and industries glimpses are had in their cave-dwellings and in the excavation of their burial mounds. The eight central States which are printed in solid color are characterized by soils and climates especially adapted to corn-growing, and represent half of the national area and nearly two-thirds of the production. Kentucky and Tennessee have a small surplus; the other six, with Nebraska, which is found in the second group only because so much of its territory is as yet unoccupied, produce nearly all the corn of commerce, and are known as the seven "surplus States." The cotton States from Virginia to Alabama inclusive,

are in the second group; and those further west are less prominent in maize distribution only by reason of larger superficial area in proportion to breadth of cultivation.

The States of greatest density of wheat distribution, are five in winter wheat, and two in spring wheat, as follows: Ohio, Indiana and Illinois, in the Ohio Valley, and Delaware and Maryland, producing almost exclusively winter wheat, and Minnesota and Iowa yielding spring wheat. The spring wheat region includes the country west of Lake Michigan, and north of Missouri and Kansas, the Rocky Mountain plateaus, and a strip in New York and New England bordering on Canada. Were the distribution made in relation to population, or even cultivated area, the grouping would be essentially different, and Dakota would stand first in the first group. Several States are not included in any group, not because they produce absolutely no wheat, but because the quantity is insignificant and annual estimates of it impracticable.

The distribution of oats is naturally most dense in the Northern States, by reason of the fact that this grain requires relatively low temperature. Gradual deterioration of yield and quality attends cultivation in any part of the United States. Oats which weigh 40 to 50 pounds per bushel, in Scotland or Norway or Denmark, will usually yield lighter grain at the first planting in this country, and the weight declines annually. In the South good crops are obtained by planting in the autumn for winter growth, and the necessity for the grain as a variation of the ration for horses has made the crop popular in this region.

The differences respectively in yield of corn, wheat and oats, are illustrated by three maps, in which the national rate of yield for the past ten years is made the basis of comparison, and the relative rank of each State or Territory is expressed as a percentage above or below the general average, the ascending or descending scale being marked by plus or minus signs. On one side of the scale the actual yield in bushels, as measured by percentages of difference, is indicated, showing instantly the equivalents of these differences in actual yields.

It will be readily seen that the results of an absolutely perfect census of the products of a single year would do manifest injustice, and excite local dissatisfaction, as a basis for a show-

ing of the relative productiveness of States under existing conditions of rural development and methods of husbandry. The fluctuations in rate of yield are so wide that nothing less than a period of ten years should be averaged for such a purpose. Such an average, from the statistical records of the Department, is the fairest basis available, and may be relied upon as practically the real measure of the production of the period.

It is proper to explain that the general average for corn, 24.2 bushels, is lower than for the previous ten years, and probably below a real normal average, on account of the successive recurrence of causes of reduced production, notably in 1881 and 1887, and less conspicuously in 1883 and 1886. The averages since 1880, with two exceptions, have been lower than in any of the six preceding years. It is believed to be the result of a series of exceptional seasons, not likely to recur with such frequency in the future.

The rate of yield must not be taken as a measure of the natural fertility of a State. In the first group, in the map showing the corn yield, there are seven States, and only two are in the great corn belt, Ohio and Nebraska. Four are in the Eastern and one is in the Middle States, where small areas are highly fertilized. The second group, having a range of averages from 31.1 to 27 bushels, includes New York and most of the States north of 35° to 40° north latitude. Illinois falls into the middle group by reason of the destructive droughts that have occurred since 1880. The South has a broad area in corn, and very rich soil, though the climate is more favorable to growth of stalk than to heavy yields of grain.

The first group in wheat yields has a range of 16.6 to 19.6 bushels, and includes eleven States and Territories, of which eight are in the Rocky Mountains and on the Pacific Coast, and three in New England, and represent comparatively little wheat. The high rate of yield in one case is due to a rich virgin soil, and in the other to fertilization and cultivation. The second group, with a yield from 13.6 to 15.9 bushels, includes the winter wheat States between the lakes and the Ohio Valley, and New York, and also Dakota in the spring wheat region. Wisconsin and Nebraska occupy a position in the middle group, and Iowa a still lower place, with 10.3 bushels as the average, 16 per cent. below the national average. Very large yields have occasionally

been made in the South, though the climate is not very favorable to a high rate of production. It is possible, by selection of localities and careful husbandry, to produce crops of wheat in this region above the general average.

The averages in oats run highest in the higher latitudes and elevations. They range from 37.3 to 10.1 bushels per acre. The highest average is in Washington, which enjoys a moist climate and moderately low temperature.

Another series of five maps illustrates the value of farm animals—horses, milch cows, other cattle, sheep and swine. The State averages are those of ten annual estimates, and not for a single year. The averages are those consolidated by the Statistician of the Department of Agriculture from returns of county averages, and they represent the values upon the farms, or the price paid to farmers in the primary markets.

The apparently extraordinary range of prices will at once attract attention, but will not excite a suspicion of inaccuracy among those acquainted with the facts. The largest factor in difference in value is breed; care and feed are also important causes of difference in value; and the distance from market is another consideration affecting value.

The first group in value of horses covers a small territory, the four States, New Jersey, Rhode Island, Massachusetts and Delaware, and presents a range of prices from \$96.21 to \$87.06. The second group has a range from \$85.96 to \$75.22, comprising eleven political divisions, including New York and Pennsylvania in the Middle States, South Carolina and Georgia in the Cotton States, and Minnesota and Dakota in the Northwest. The first named are in a populous section, demanding fine stock; the next mentioned are amply able to produce a surplus, while depending on Tennessee and Kentucky and other States for a large proportion of their domestic deficiency; and the last are in an agricultural region of so rapid settlement as to render present importation an urgent necessity. The lower groups are found in agricultural districts where horses are raised for market as well as for use on the farm. In these, the culling process, for supplying the requirements of the principal markets, is continually reducing the value of the remainder, the young and the less desirable of the mature stock. In Texas the lowest average

appears because of the large number raised and the proportion of small animals of "Spanish" or Mexican origin. There are herds of horses in the Territories with a large infusion of good blood, which command somewhat higher prices.

The extremes are great in values of cattle. The lowest group represents Texan cattle, which came from Mexico originally, and from Spain more remotely—the longhorn tribes, hardy from survival of the strongest, and unimproved through generations of neglect. Until within fifteen years they were the export cattle of the United States, going to Cuba and adjacent Islands. They go there still, and five nearly represent the value of one fat shorthorn sent to England. In the more distant Western States, the grazing region, the average value is lower than in the States further east which buy two-year-olds to feed and finish for the market. There are various considerations of breed, feed and distance from market, which cause differences in average values.

The value of milch cows is indicated on a separate map. Of course the groups above the average represent the dairy districts. In some of the Territories, however, values are high because of scarcity and demand for milk and butter in mining camps, as the females of large grazing herds are not reckoned as milch cows.

The value of sheep ranges from \$3.70 to \$1.34, depending on breed and grade, quality and quantity of wool, value for meat production and distance from market. Every district has its peculiarities in sheep husbandry, including pedigree-stock growing, mutton producing, raising early lambs, and exclusive wool growing. Three-fourths of all are Merino breeds and their grades; the English breeds are numerous in some sections; and grade Mexicans are common in the Southwest.

The value of swine has an extreme range, according to average age of slaughtering, which affects the average of weight, as does also the amount and kind of feed and length of feeding season. Where swine are kept for home use mainly, and the market for a possible surplus is precarious, average prices are very low, and the stock is usually slaughtered at an early age, as pigs of small average weight. In the pork packing regions, on the contrary, feeding is liberal and weights are heavy while the demand is sure and the prices generally remunerative.

The proportion of rural population is presented

in the fourteenth map of the list. The basis is found in the record of numbers in all gainful occupations in the United States, in 1880, by segregating all those occupations which in a broad sense may be deemed related to agriculture. The proportion was about 44 per cent. of all enumerated. This was three per cent. less than in 1870. It is probable that a census on the same basis, in 1890, will show a slight further decrease. The highest group includes those States having 83 down to 72 per cent.; the lowest from 15 down to 9 per cent. It may be fairly assumed that this small percentage of farm workers produce half the supplies required in their States, and that 25 to 30 per cent. of all could feed liberally the entire population of the country.

An illustration of the variation in average values of farm lands, showing a range from \$65.16 to \$4.19, places nine States in the highest group, four in the second and seven in the middle group, which includes States with averages from twenty per cent. above to twenty per cent. below the national average, leaving twenty-six out of forty-six political divisions with very low averages, the maximum being \$14.45. This is based upon the last Census. It is hoped that the enumeration of 1890 will show a material increase in these low values, as the result of the diversification of industry and a better employment of surplus labor for which there has heretofore been no profitable use.

The last map of the album series shows the relative proportions of proprietors, tenants paying money rent, and tenants paying a share of produce in lieu of rent, in the active management of farms. It shows that 74.5 per cent. of all farms are cultivated by their owners. The proportion of share tenants is nominally 17.5 per cent. An examination of the table reveals the fact that they are mostly in the Cotton States. A more thorough investigation proves that the freedmen occupants are generally tenants in name only, with a pretence of independent occupancy, living not on separate farms but on temporary subdivisions of land without any substantial appurtenances of a farm, and without the working capital necessary to habilitate a man as a working farmer. The tenants who pay a money rent are but 8 per cent. of all.

The Album of Agricultural Statistics is presented to the people of the United States as an aid to their clear and instant appreciation of some of the leading facts of American agriculture.

Percentage of unoccupied and of Farm Lands
COMPRISING THE
SUPERFICIAL AREA
OF THE TERRITORY OF THE
UNITED STATES OF AMERICA.

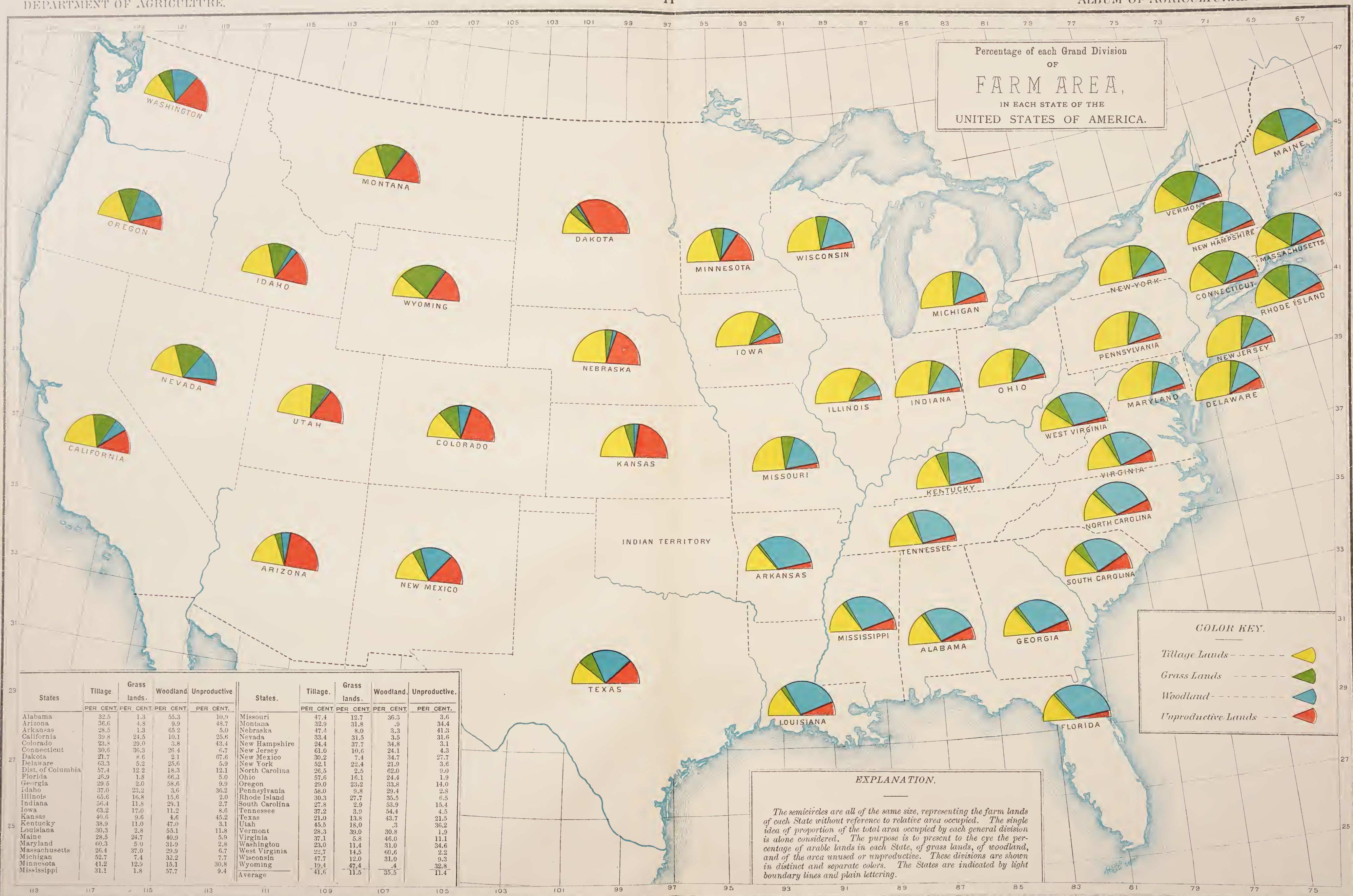
COLOR KEY.

Lands not in Farms — — — — —
IN FARMS { Productive Lands — — — — —
Woodland — — — — —
Unproductive Area — — — — —

EXPLANATION.

The semicircles are all of the same size, representing the superficial area of each State without reference to the extent of such territory. The single idea of proportion of the entire land surface not in farms, and of the several classes of farm lands, is alone considered. The first division represents that part of the surface not included in farm area; the other divisions show the proportion which is productive, the woodland, and the farm land which is unused or unproductive. These divisions are shown in distinct and separate colors. The States are indicated by light boundary lines and plain lettering.

States.	Lands not in Farms.		Productive Lands.		Woodland.		Unproductive farm area.	
	PER CENT.	PER CENT.	PER CENT.	PER CENT.	PER CENT.	PER CENT.	PER CENT.	PER CENT.
Alabama	42.8	19.4	31.6	6.2				
Arizona	99.8	.1	.0	.1				
Arkansas	64.5	10.6	23.1	1.8				
California	83.4	10.7	1.7	4.2				
Colorado	98.2	.9	.1	.8				
Connecticut	20.9	53.0	20.8	5.3				
Dakota	96.0	1.2	.1	2.7				
Delaware	13.1	59.6	22.2	5.1				
Dist. of Columbia	32.7	32.9	8.7	5.7				
Florida	90.5	2.7	6.3	5.5				
Georgia	31.0	21.7	40.5	6.8				
Idaho	99.4	.4	.0	.2				
Illinois	11.6	72.9	13.8	1.7				
Indiana	11.1	60.7	25.8	2.4				
Iowa	20.3	56.0	7.7	6.0				
Kansas	59.0	20.6	1.9	18.5				
Kentucky	16.0	41.9	39.5	2.6				
Louisiana	71.5	9.4	15.7	3.4				
Maine	65.8	18.2	14.0	2.0				
Maryland	18.9	53.0	25.9	2.2				
Massachusetts	34.7	41.4	19.5	4.4				
Michigan	62.4	22.6	12.1	2.9				
Minnesota	73.6	14.3	4.0	8.1				
Mississippi	46.5	17.6	30.8	5.1				
Missouri	36.6	38.1	23.0	2.3				
Montana	99.6	.3	.0	.1				
Nebraska	79.6	11.3	.7	8.4				
Nevada	99.2	.5	.0	.3				
New Hampshire	35.4	40.1	22.5	2.0				
New Jersey	38.6	43.9	14.9	2.6				
New Mexico	99.2	.3	.3	.2				
New York	22.0	58.1	17.0	2.9				
North Carolina	28.1	20.8	44.6	6.5				
Ohio	6.0	69.3	22.9	1.8				
Oregon	93.0	3.6	2.4	1.0				
Pennsylvania	31.3	46.6	20.2	1.9				
Rhode Island	25.9	43.0	26.3	4.8				
South Carolina	30.3	21.4	37.6	10.7				
Tennessee	22.7	31.8	42.0	3.5				
Texas	78.4	7.5	9.4	4.7				
Utah	98.8	.8	.0	.4				
Vermont	16.5	56.2	25.7	1.6				
Virginia	22.8	33.1	35.5	8.6				
Washington	96.7	1.2	1.0	1.1				
West Virginia	35.4	24.0	39.2	1.4				
Wisconsin	55.9	26.3	13.7	4.1				
Wyoming	99.8	.1	.0	.1				
Average	71.1	15.3	10.3	3.3				





ACREAGE IN CORN

per 1000 acres of superficial area.

States arranged in groups in relation to general average.

COLOR KEY.

Acres per 1000	Tints.	States.
101 and over.	[Darkest Green]	10
from 71 to 100.	[Medium Green]	7
from 41 to 70.	[Light Green]	4
from 11 to 40.	[Very Light Green]	11
10 and under.	[Lightest Green]	9 41
United States Average = 41 per 1000 acres.		

EXPLANATION.

This map is intended to show the proportion of the superficial area of each State of the United States which is cultivated in corn; the acreage seeded in this cereal for every thousand acres of the superficial area. The States are placed in five groups, each distinguished by separate tints or degrees of intensity in color, those having the largest proportion of the total area in solid color, the other groups relieved by gradation indicated both by tint and mechanical drawing, thus employing both form and color to aid the eye in distinguishing the groups. The figures printed in the center of each State show the number of acres in this grain for every thousand acres of superficial area. The general average of the United States is 41 to every 1000 acres.

States.	Acres of corn 1888.	Acres of corn to each 1,000 acres of total land surface.	States.	Acres of corn 1888.	Acres of corn to each 1,000 acres of total land surface.
Alabama	2,480,475	75	Missouri	6,534,921	149
Arkansas	2,130,399	63	Nebraska	4,097,067	84
California	155,184	2	N'w Hampshire	37,421	6
Colorado	34,394	1	New Jersey	350,335	73
Connecticut	56,977	18	New Mexico	53,609	1
Dakota	737,899	8	New York	705,859	23
Delaware	220,927	176	North Carolina	2,673,910	86
Florida	463,392	13	Ohio	2,862,080	110
Georgia	2,923,885	77	Oregon	7,140	1
Illinois	7,788,790	217	Pennsylvania	1,397,350	49
Indiana	3,605,694	157	Rhode Island	12,558	18
Iowa	7,771,840	219	South Carolina	1,576,388	82
Kansas	5,924,566	113	Tennessee	3,637,762	136
Kentucky	3,160,668	123	Texas	4,814,363	29
Louisiana	1,031,263	35	Utah	33,500	1
Maine	30,878	2	Vermont	61,470	11
Maryland	740,645	117	Virginia	2,131,595	83
Massachusetts	59,397	12	Washington	6,100	1
Michigan	967,513	26	West Virginia	678,518	43
Minnesota	703,837	14	Wisconsin	1,069,717	31
Mississippi	1,933,477	65	Total	75,672,763	41



States.	Acres of wheat 1888.	Acres of wheat to each 1,000 acres of total land surface.	States.	Acres of wheat 1888.	Acres of wheat to each 1,000 acres of total land surface.
Alabama	420,443	13	Montana	121,255	1
Arizona	24,635	1—	Nebraska	1,560,021	32
Arkansas	233,671	7	Nevada	12,500	1—
California	2,351,300	24	N. Hampshire	10,380	2
Colorado	134,074	2	New Jersey	141,652	30
Connecticut	2,149	1	New Mexico	82,186	1
Dakota	3,921,269	41	New York	660,214	22
Delaware	94,790	76	North Carolina	710,268	23
Georgia	374,452	10	Ohio	2,657,884	102
Idaho	76,818	1	Oregon	892,425	15
Illinois	2,449,343	68	Pennsylvania	1,392,728	48
Indiana	2,774,062	121	South Carolina	194,563	10
Iowa	2,468,932	70	Tennessee	1,211,394	45
Kansas	1,050,000	20	Texas	512,226	3
Kentucky	1,013,228	40	Utah	119,239	2
Maine	40,644	2	Vermont	20,710	4
Maryland	557,248	88	Virginia	623,121	24
Michigan	1,645,762	45	Washington	486,791	11
Minnesota	3,097,916	61	West Virginia	305,199	19
Mississippi	84,375	3	Wisconsin	1,204,798	35
Missouri	1,541,343	35	Total	37,336,138	20

EXPLANATION.

This map is intended to show the proportion of the superficial area of each State of the United States which is cultivated in wheat; the acreage seeded in this cereal for every thousand acres of the superficial area. The States are placed in five groups, each distinguished by separate tints or degrees of intensity in color; those having the largest proportion of the total area in solid color, the other groups relieved by gradation indicated both by tint and mechanical drawing, thus employing both form and color to aid the eye in distinguishing the groups. The figures printed in the center of each State show the number of acres in this grain for every thousand acres of superficial area. The general average of the United States is 20 to every 1000 acres.

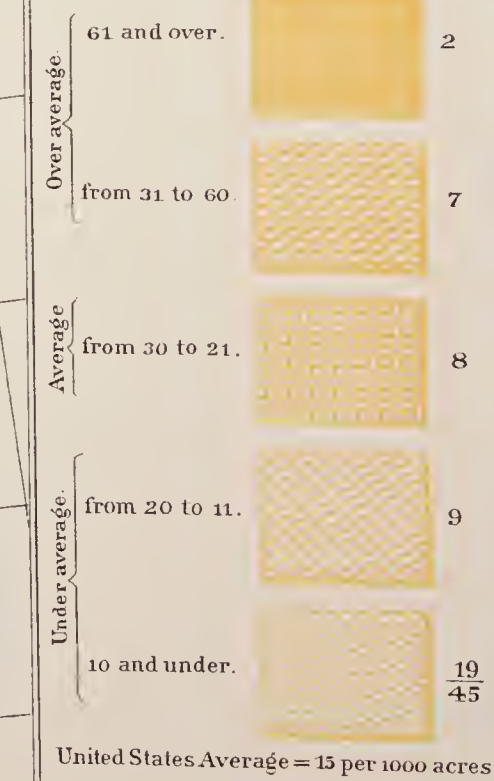
ACREAGE IN OATS

per 1000 acres of superficial area.

States arranged in groups in relation to general average.

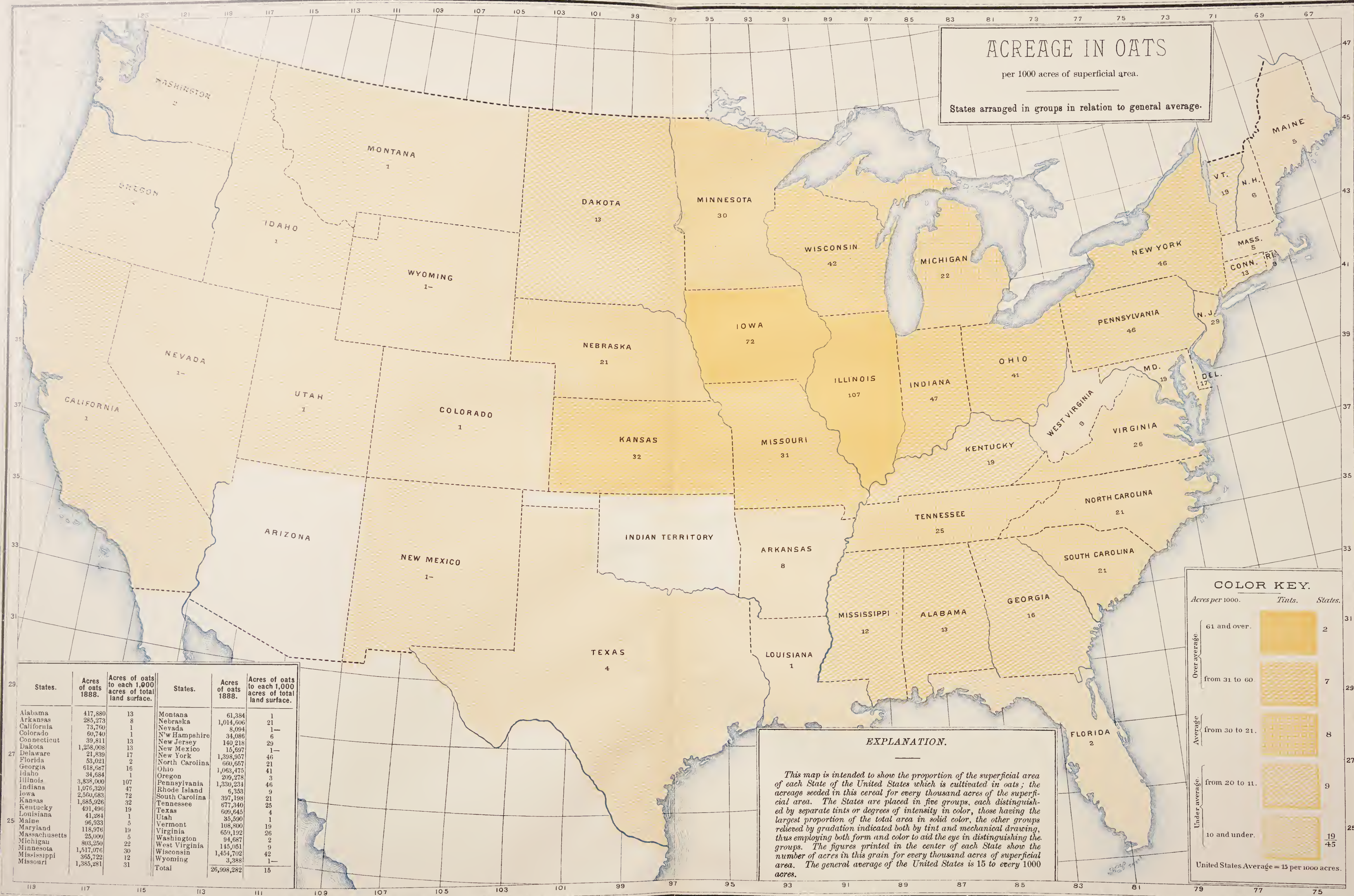
COLOR KEY.

Acres per 1000. Tints. States.



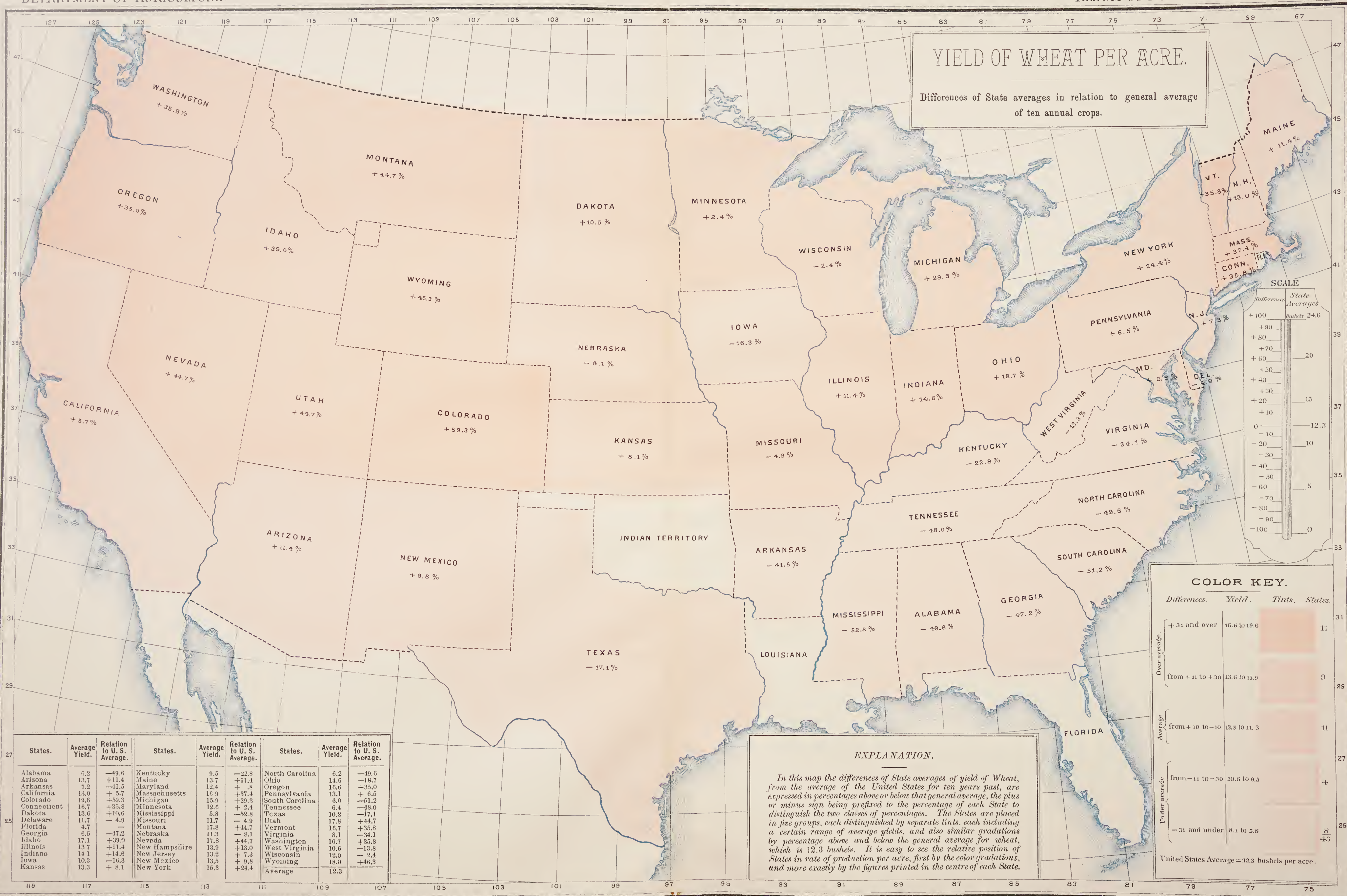
EXPLANATION.

This map is intended to show the proportion of the superficial area of each State of the United States which is cultivated in oats; the acreage seeded in this cereal for every thousand acres of the superficial area. The States are placed in five groups, each distinguished by separate tints or degrees of intensity in color, those having the largest proportion of the total area in solid color, the other groups relieved by gradation indicated both by tint and mechanical drawing, thus employing both form and color to aid the eye in distinguishing the groups. The figures printed in the center of each State show the number of acres in this grain for every thousand acres of superficial area. The general average of the United States is 15 to every 1000 acres.



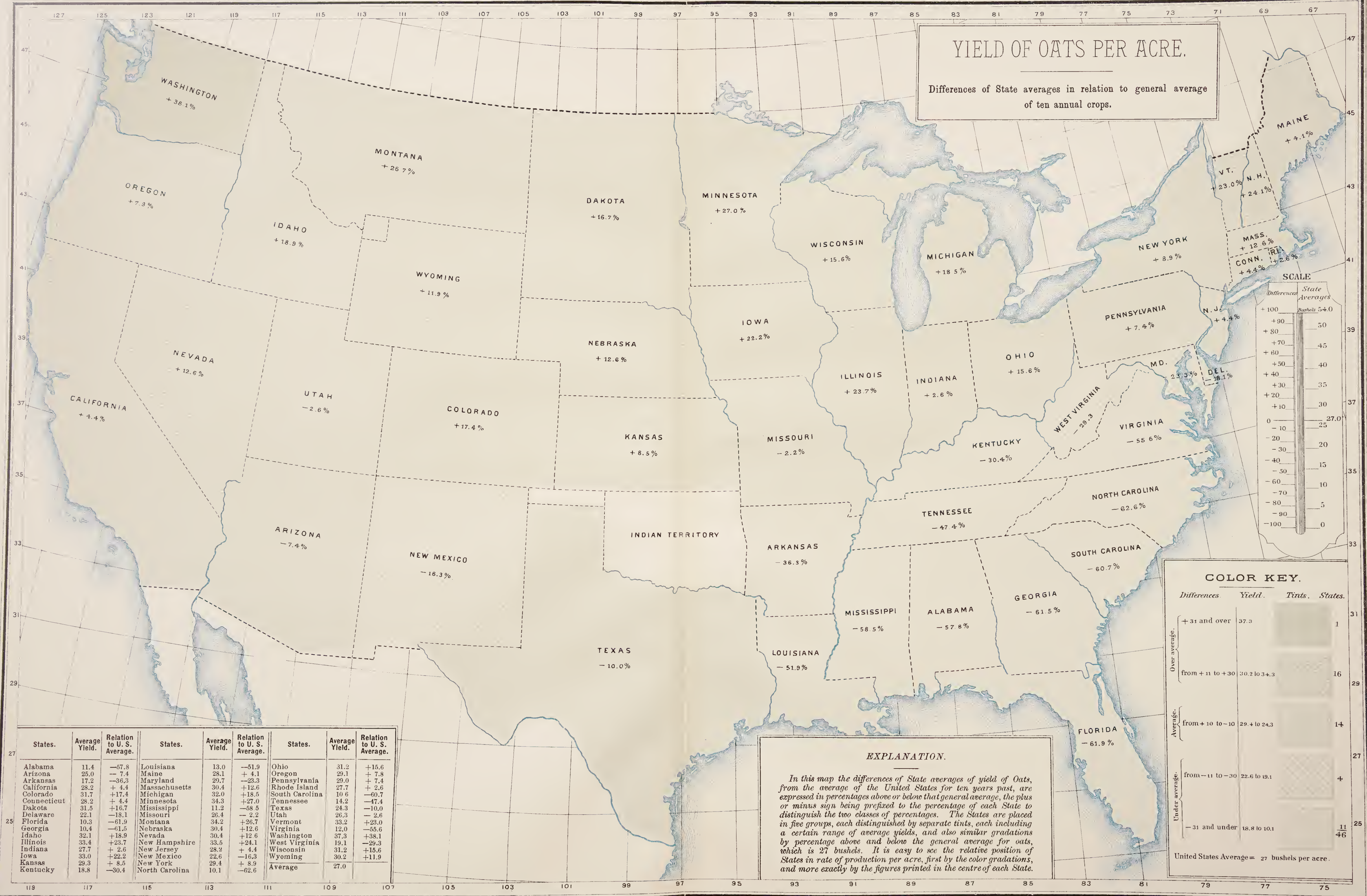
States.	Acres of oats 1888.	Acres of oats to each 1,000 acres of total land surface.	States.	Acres of oats 1888.	Acres of oats to each 1,000 acres of total land surface.
Alabama	417,880	13	Montana	61,384	1
Arkansas	285,273	8	Nebraska	1,014,606	21
California	73,700	1	Nevada	8,094	1
Colorado	60,740	1	New Hampshire	34,086	6
Connecticut	39,811	13	New Jersey	140,218	29
Dakota	1,238,008	13	New Mexico	15,697	1
Delaware	21,839	17	New York	1,398,957	46
Florida	53,021	2	North Carolina	660,657	21
Georgia	618,687	16	Ohio	1,063,475	41
Idaho	34,684	1	Oregon	209,278	3
Illinois	3,838,000	107	Pennsylvania	1,330,234	46
Indiana	1,076,320	47	Rhode Island	6,353	9
Iowa	2,560,683	72	South Carolina	397,198	21
Kansas	1,885,926	32	Tennessee	677,340	25
Kentucky	401,496	19	Texas	609,645	4
Louisiana	41,284	1	Utah	35,590	1
Maine	96,933	5	Vermont	108,800	19
Maryland	118,976	19	Virginia	659,192	26
Massachusetts	25,000	5	Washington	94,687	2
Michigan	803,250	22	West Virginia	145,061	9
Minnesota	1,517,076	30	Wisconsin	1,454,702	42
Mississippi	365,722	12	Wyoming	3,388	1
Missouri	1,385,281	31	Total	26,998,282	15





YIELD OF OATS PER ACRE.

Differences of State averages in relation to general average of ten annual crops.



States.	Average Yield.	Relation to U. S. Average.	States.	Average Yield.	Relation to U. S. Average.	States.	Average Yield.	Relation to U. S. Average.
Alabama	11.4	-67.8	Louisiana	13.0	-51.9	Ohio	31.2	+15.6
Arizona	25.0	-7.4	Maine	28.1	+4.1	Oregon	29.1	+7.8
Arkansas	17.2	-36.3	Maryland	29.7	+23.3	Pennsylvania	29.0	+7.4
California	28.2	+4.4	Massachusetts	30.4	+12.6	Rhode Island	27.7	+2.6
Colorado	31.7	+17.4	Michigan	32.0	+18.5	South Carolina	10.6	-60.7
Connecticut	28.2	+4.4	Minnesota	34.3	+27.0	Tennessee	14.2	-47.4
Dakota	31.5	+16.7	Mississippi	11.2	-58.5	Texas	24.3	-10.0
Delaware	22.1	-18.1	Missouri	26.4	-2.2	Utah	26.3	-2.6
Florida	10.3	-61.9	Montana	34.2	+26.7	Vermont	33.2	+23.0
Georgia	10.4	-61.5	Nebraska	30.4	+12.6	Virginia	12.0	-55.6
Idaho	32.1	+18.9	Nevada	30.4	+12.6	Washington	37.3	+38.1
Illinois	33.4	+23.7	New Hampshire	33.5	+24.1	West Virginia	19.1	-29.3
Indiana	27.7	+2.6	New Jersey	28.2	+4.4	Wisconsin	31.2	+15.6
Iowa	33.0	+22.2	New Mexico	22.6	-16.3	Wyoming	30.2	+11.9
Kansas	29.3	+8.5	New York	29.4	+8.9	Average	27.0	
Kentucky	18.8	-30.4	North Carolina	10.1	-62.6			

EXPLANATION.

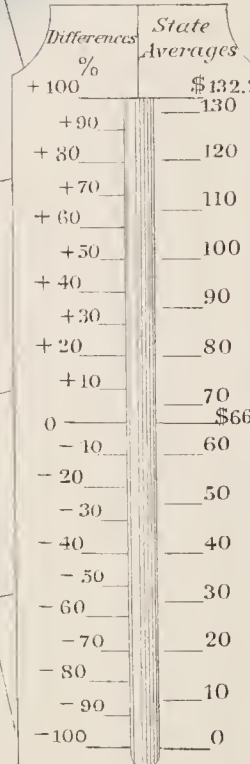
In this map the differences of State averages of yield of Oats, from the average of the United States for ten years past, are expressed in percentages above or below that general average, the plus or minus sign being prefixed to the percentage of each State to distinguish the two classes of percentages. The States are placed in five groups, each distinguished by separate tints, each including a certain range of average yields, and also similar gradations by percentage above and below the general average for oats, which is 27 bushels. It is easy to see the relative position of States in rate of production per acre, first by the color gradations, and more exactly by the figures printed in the centre of each State.

AVERAGE VALUE OF HORSES

of the United States.

Differences of State averages in relation to general average.

SCALE



COLOR KEY.

Differences.	Range of Value.	Tints.	States.
+31 and over	\$87.06 to \$96.21	Orange	4
Over average.	from +11 to +30		11 29
from +10 to -10	\$72.95 to \$59.57	Light Orange	18
Average			27
from -11 to -30	\$56.14 to \$47.49	Light Yellow	10
Under average.			25
-31 and under	\$44.38 to \$32.17	Yellow	3 46

United States Average = \$66.11 per head.

EXPLANATION.

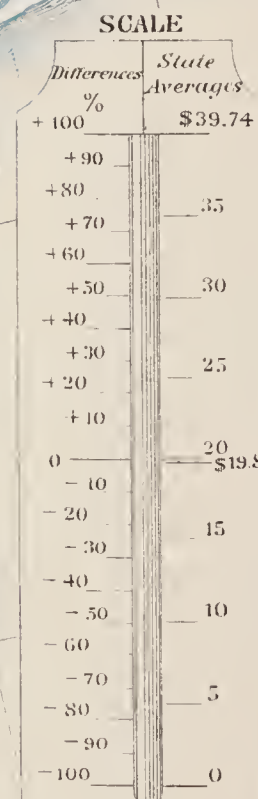
In this map the differences of State averages of value of horses, from the average of the United States for ten years past, are expressed in percentages above or below that general average, the plus or minus sign being prefixed to the percentage of each State to distinguish the two classes of percentages. The States are placed in five groups, each class distinguished by separate tints, each including a certain range of average values, and of percentages above or below the general average, which is \$66.11. These differences of value are due to differences of breed, distance from market, proportions of young and mature animals respectively in pastoral and manufacturing States and other local causes affecting values.

States.	Value per head	Relation to U. S. Average.	States.	Value per head	Relation to U. S. Average.	States.	Value per head	Relation to U. S. Average.
Alabama	\$77.85	+ 2.6	Louisiana	\$55.86	-15.5	Ohio	\$71.52	+ 8.2
Arizona	\$52.82	-20.1	Maine	\$76.39	+15.5	Oregon	\$54.54	-17.5
Arkansas	\$54.09	-18.2	Maryland	\$77.03	+16.5	Pennsylvania	\$84.41	+27.7
California	\$56.14	-15.1	Massachusetts	\$93.06	+40.8	Rhode Island	\$94.30	+42.6
Colorado	\$59.57	- 9.9	Michigan	\$80.99	+22.5	South Carolina	\$85.34	+29.1
Connecticut	\$81.23	+22.9	Minnesota	\$75.82	+14.7	Tennessee	\$60.43	- 8.6
Dakota	\$76.49	+15.7	Mississippi	\$69.33	+ 4.9	Texas	\$32.17	-51.3
Delaware	\$87.06	+31.7	Missouri	\$53.56	-19.0	Utah	\$44.38	-32.9
Florida	\$75.22	+13.8	Montana	\$54.89	-17.0	Vermont	\$72.95	+10.3
Georgia	\$75.98	+14.9	Nebraska	\$72.92	+10.3	Virginia	\$66.04	- 1.1
Idaho	\$54.74	-17.2	Nevada	\$55.75	-15.7	Washington	\$64.65	- 2.2
Illinois	\$77.11	+ 1.5	New Hampshire	\$72.41	+ 9.5	West Virginia	\$59.97	- 9.3
Indiana	\$77.12	+ 1.5	New Jersey	\$96.21	+45.5	Wisconsin	\$72.18	+ 9.2
Iowa	\$68.07	+ 3.0	New Mexico	\$38.08	-42.4	Wyoming	\$47.49	-28.2
Kansas	\$63.82	- 3.5	New York	\$85.96	+30.0	Average	\$66.11	
Kentucky	\$61.26	- 7.3	North Carolina	\$69.93	+ 5.8			

AVERAGE VALUE OF CATTLE

of the United States, (exclusive of milch cows.)

Differences of State averages in relation to general average.



COLOR KEY

Differences. Range of Value. Tints. States.

Over average	+31 and over	\$26.66 to \$34.76	11
Average	from +11 to +30	\$22.46 to \$25.76	17
	from +10 to -10	\$21.96 to \$17.78	8
Under average	from -11 to -30		
	-31 and under	\$13.48 to \$8.27	10

United States Average=\$19.87 per head.

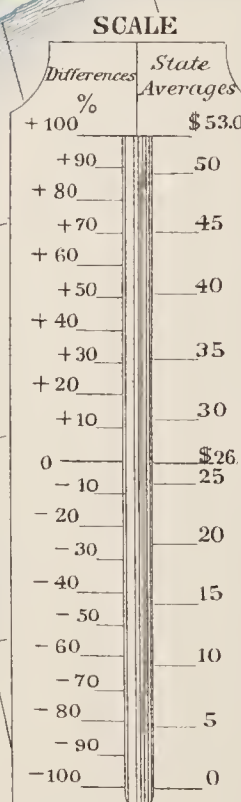
EXPLANATION.

In this map the differences of State averages of value of cattle (exclusive of milch cows), from the average of the United States for ten years past, are expressed in percentages above or below that general average, the plus or minus sign being prefixed to the percentage of each State to distinguish the two classes of percentages. The States are placed in five groups, each class distinguished by separate tints, each including a certain range of average values, and of percentages above or below the general average which is \$19.87.

States.	Value per head	Relation to U. S. Average.	States.	Value per head	Relation to U. S. Average.	States.	Value per head	Relation to U. S. Average.
Alabama	9.67	-61.3	Louisiana	11.50	-42.1	Ohio	26.66	+34.2
Arizona	19.31	-2.8	Maine	27.22	+37.0	Oregon	21.63	+8.9
Arkansas	11.29	-43.2	Maryland	23.65	+19.0	Pennsylvania	27.23	+37.0
California	22.90	+15.2	Massachusetts	34.76	+74.9	Rhode Island	32.82	+65.2
Colorado	24.36	+22.6	Michigan	25.76	+29.6	South Carolina	10.93	-45.0
Connecticut	31.83	+60.2	Minnesota	21.96	+10.5	Tennessee	13.48	-32.2
Dakota	23.64	+19.0	Mississippi	9.66	-51.4	Texas	12.20	-38.6
Delaware	26.87	+35.2	Montana	19.32	-2.8	Utah	26.97	+35.7
Florida	8.27	-58.4	Nebraska	23.55	+18.5	Virginia	18.08	-9.0
Georgia	9.92	-50.1	Nevada	24.20	+21.8	Washington	24.90	+25.3
Idaho	22.58	+13.6	New Hampshire	22.46	+13.0	West Virginia	21.10	+6.2
Illinois	24.78	+24.7	New Jersey	30.46	+53.3	Wisconsin	22.64	+13.9
Indiana	23.28	+17.2	New Mexico	17.78	-10.5	Wyoming	23.46	+18.1
Iowa	22.81	+14.8	New York	31.48	+58.4	Average	19.87	
Kansas	22.94	+15.5	North Carolina	10.03	-49.5			
Kentucky	22.56	+13.5						

AVERAGE VALUE OF MILCH COWS
in the United States.

Differences of State averages in relation to general average.



COLOR KEY.

Differences.	Range of Value.	Tints.	States.
+31 and over	\$34.95 to \$39.12	Light Yellow	5
Over average	from +11 to +30	Light Green	16
Average	from +10 to -10	Light Blue	13
Under average	from -11 to -30	Light Purple	4
-31 and under	\$17.97 to \$13.47	Light Pink	8

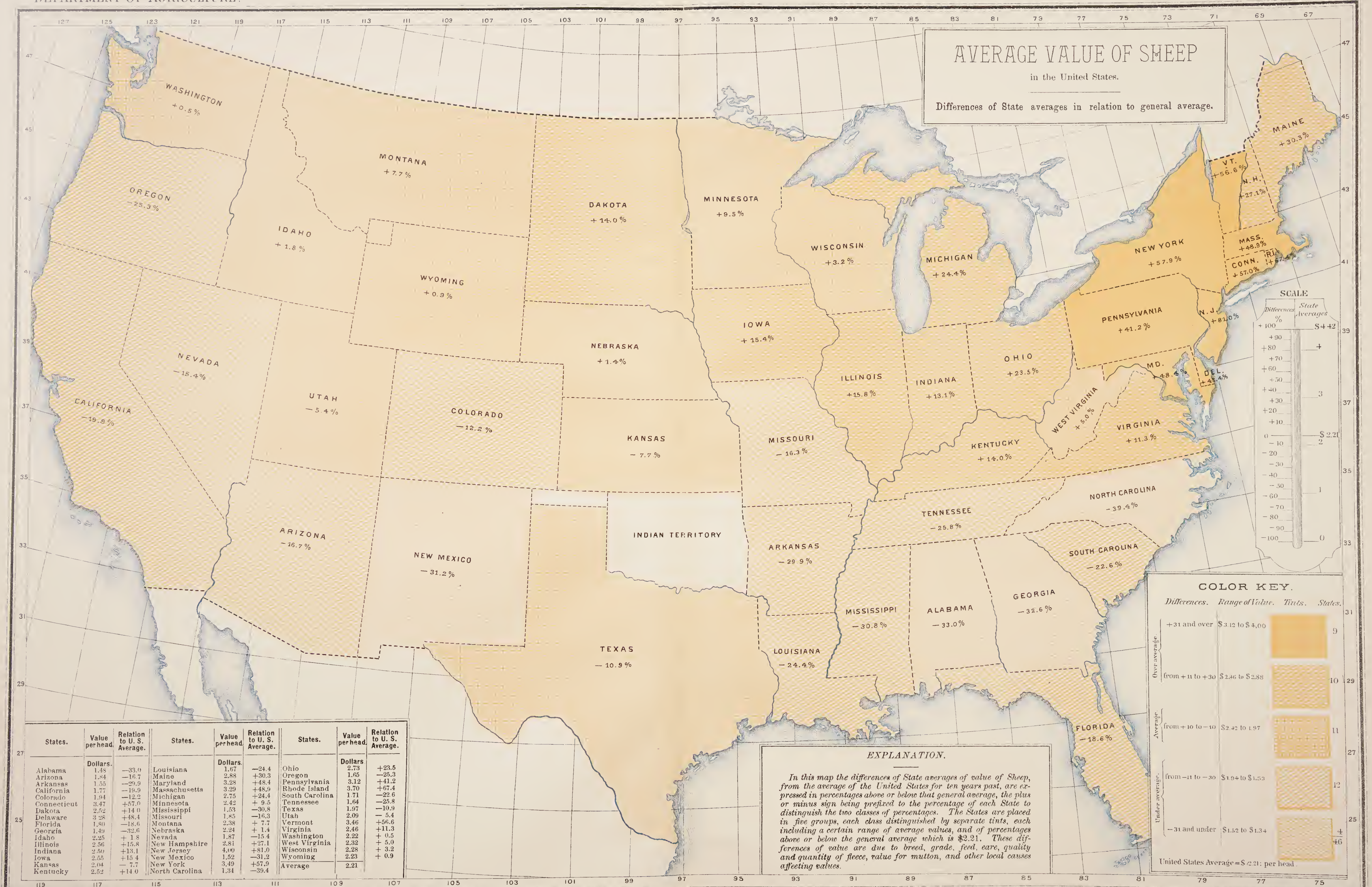
United States Average = \$26.53 per head

EXPLANATION.

In this map the differences of State averages of value of milch cows, from the average of the United States for ten years past, are expressed in percentages above or below that general average, the plus or minus sign being prefixed to the percentage of each State to distinguish the two classes of percentages. The States are placed in five groups, each class distinguished by separate tints, each including a certain range of average values, and of percentages above or below the general average, which is \$26.53. These differences of value are due to differences of breed and development, to better care and higher feed in dairy districts than in non-dairying agricultural regions, and to facilities for transportation to market of dairy products.



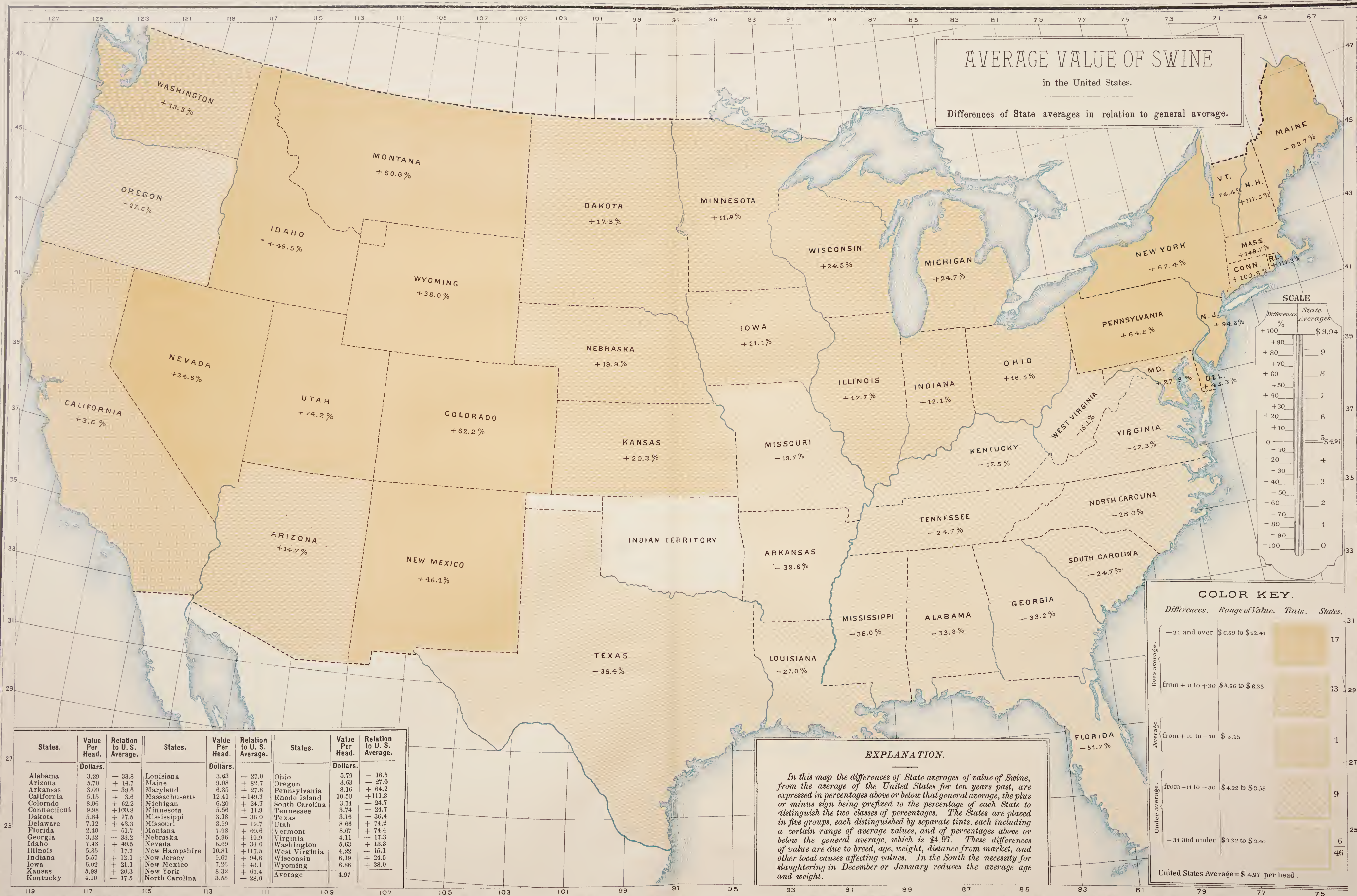
States.	Value per head.	Relation to U. S. Average.	States.	Value per head.	Relation to U. S. Average.	States.	Value per head.	Relation to U. S. Average.
Alabama	15.14	-42.9	Louisiana	17.97	-32.3	Ohio	30.77	+16.0
Arizona	30.12	+13.5	Maine	28.29	+6.6	Oregon	25.13	-5.3
Arkansas	17.29	-34.8	Maryland	29.97	+13.0	Pennsylvania	29.90	+12.7
California	32.49	+22.5	Massachusetts	34.95	+31.7	Rhode Island	33.70	+27.0
Colorado	39.12	+47.5	Michigan	30.80	+16.1	South Carolina	17.90	-32.5
Connecticut	32.26	+21.6	Minnesota	25.95	-2.2	Tennessee	20.04	-24.5
Dakota	27.77	+4.7	Mississippi	15.40	-42.0	Texas	18.36	-30.8
Delaware	29.87	+12.6	Missouri	23.08	-13.0	Utah	30.37	+14.5
Florida	13.47	-49.2	Montana	35.65	+34.4	Vermont	27.25	+2.7
Georgia	16.53	-37.7	Nebraska	28.51	+7.5	Virginia	21.15	-20.3
Idaho	34.50	+30.0	Nevada	37.21	+40.3	Washington	33.31	+25.6
Illinois	30.03	+13.2	New Hampshire	29.45	+11.0	West Virginia	25.86	-2.5
Indiana	28.67	+8.1	New Jersey	36.39	+37.2	Wisconsin	26.65	+5
Iowa	27.33	+3.0	New Mexico	27.61	+4.1	Wyoming	33.50	+26.3
Kansas	27.36	+3.1	New York	30.97	+16.7	Average	26.53	
Kentucky	27.35	+3.1	North Carolina	16.20	-38.9			

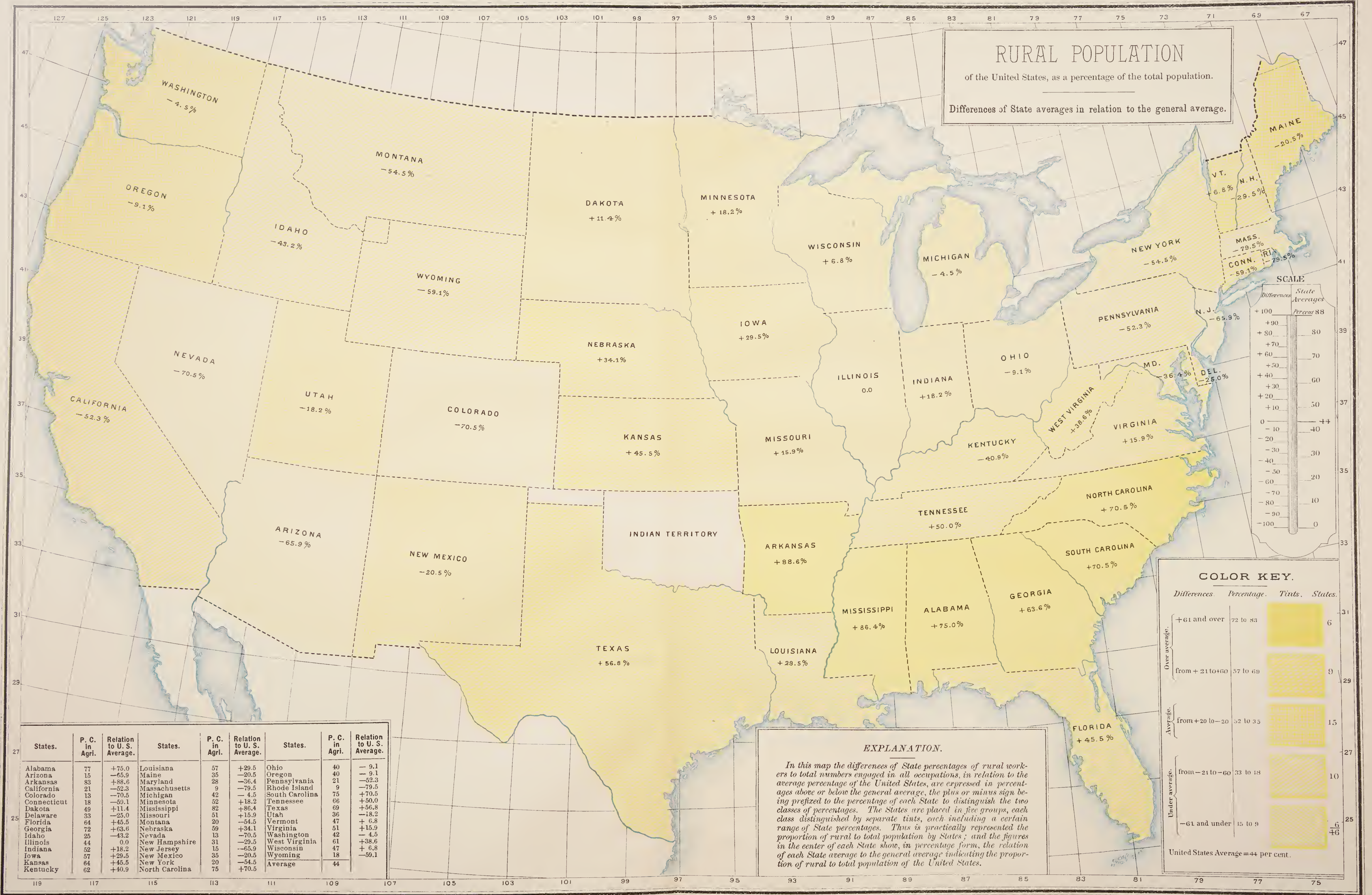


AVERAGE VALUE OF SWINE

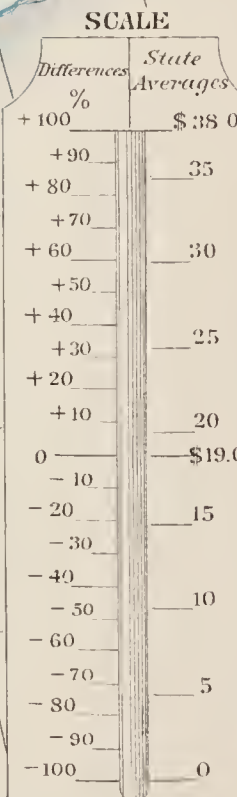
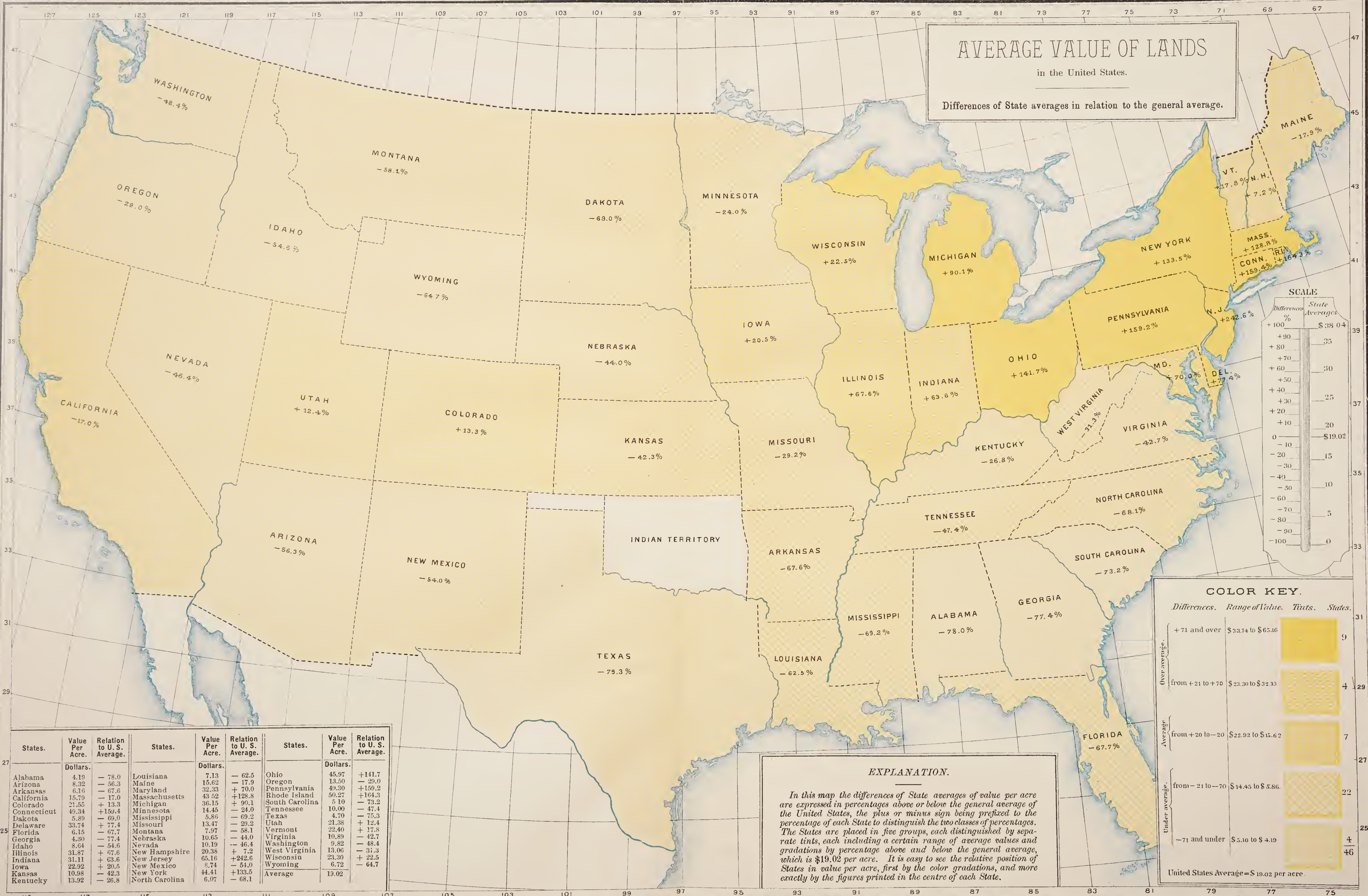
in the United States.

Differences of State averages in relation to general average.





AVERAGE VALUE OF LANDS
in the United States.
Differences of State averages in relation to the general average.



COLOR KEY.

Differences.	Range of Value.	Tints.	States.
+71 and over	\$33.74 to \$65.46	[Yellow]	9
from +21 to +70	\$23.30 to \$32.33	[Orange]	4
from +20 to -20	\$22.92 to \$15.62	[Red]	7
from -21 to -70	\$14.45 to \$5.86	[Green]	22
-71 and under	\$5.10 to \$4.19	[Blue]	4

United States Average = \$19.02 per acre.

EXPLANATION.

In this map the differences of State averages of value per acre are expressed in percentages above or below the general average of the United States, the plus or minus sign being prefixed to the percentage of each State to distinguish the two classes of percentages. The States are placed in five groups, each distinguished by separate tints, each including a certain range of average values and gradations by percentage above and below the general average, which is \$19.02 per acre. It is easy to see the relative position of States in value per acre, first by the color gradations, and more exactly by the figures printed in the centre of each State.

States.	Value Per Acre.	Relation to U. S. Average.	States.	Value Per Acre.	Relation to U. S. Average.	States.	Value Per Acre.	Relation to U. S. Average.
Alabama	4.19	-78.0	Louisiana	7.13	-62.5	Ohio	45.97	+141.7
Arizona	8.32	-56.3	Maine	15.62	-17.9	Oregon	13.50	-29.0
Arkansas	6.16	-67.6	Maryland	32.33	+70.0	Pennsylvania	49.30	+159.2
California	15.79	-17.0	Massachusetts	43.52	+128.8	Rhode Island	50.27	+164.3
Colorado	21.55	+13.3	Michigan	36.15	+90.1	South Carolina	5.10	-73.2
Connecticut	49.34	+159.4	Minnesota	14.45	-24.0	Tennessee	10.00	-47.4
Dakota	5.89	-69.0	Mississippi	5.86	-69.2	Texas	4.70	-75.3
Delaware	33.74	+77.4	Missouri	13.47	-29.2	Utah	21.38	+12.4
Florida	6.15	-67.7	Montana	7.97	-58.1	Vermont	22.40	+17.8
Georgia	4.30	-77.4	Nebraska	10.65	-44.0	Virginia	10.89	-42.7
Idaho	8.64	-54.6	Nevada	10.19	-46.4	Washington	9.82	-48.4
Illinois	31.87	+67.6	New Hampshire	20.38	+7.2	West Virginia	13.06	-31.3
Indiana	31.11	+63.6	New Jersey	65.16	+242.6	Wisconsin	23.30	+22.5
Iowa	22.92	+20.5	New Mexico	8.74	-54.0	Wyoming	6.72	-64.7
Kansas	10.98	-42.3	New York	44.41	+133.5	Average	19.02	
Kentucky	13.92	-26.8	North Carolina	6.07	-68.1			

FARM TENURES

in the United States.

Proportion of Farms cultivated by proprietors, by tenants paying a money rental, and by tenants renting on shares.

COLOR KEY.

FARMS CULTIVATED BY

- Proprietors
- Tenants paying money rent
- " " share of produce

EXPLANATION.

The semi-circles are of the same size, representing the total number of farms in each State without regard to number or extent of territory occupied. The single idea of proportion of the farms cultivated under each class of tenure is alone considered. The first division represents the farms carried on by their proprietors; the second, those held by tenants who pay a money rent; the third, those occupied by renters who pay a stipulated share of the produce for the use of the land. It should be stated that the large proportion of the latter class in the South is due to the aversion of the freedman to working for wages, who are virtually farm laborers rather than tenant farmers.

States.	Farms.	Cultivated by—			States.	Farms.	Cultivated by—		
		Owner.	tenant-money rental.	tenant on shares.			Owner.	tenant-money rental.	tenant on shares.
Alabama	135,864	53.2	16.8	30.0	Montana	1,519	94.7	1.1	4.2
Arizona	767	88.8	5.5	7.7	Nebraska	63,387	82.0	3.1	14.9
Arkansas	94,433	69.1	10.5	20.4	Nevada	1,404	90.3	4.5	5.2
California	35,934	80.2	8.9	10.9	New Hampshire	32,181	91.9	3.8	4.3
Colorado	4,606	87.0	3.7	9.3	New Jersey	34,307	75.4	10.5	14.1
Connecticut	30,598	89.8	6.3	3.9	New Mexico	5,053	91.9	.4	7.7
Dakota	17,435	96.1	.4	3.5	New York	241,058	83.5	7.5	9.0
Delaware	8,749	57.6	5.8	36.6	North Carolina	157,699	66.5	5.5	28.0
Florida	23,438	69.1	15.1	15.8	Ohio	247,189	80.7	6.0	13.3
Georgia	138,626	55.1	13.4	31.5	Oregon	16,217	85.9	4.6	9.5
Idaho	1,885	95.3	1.7	3.0	Pennsylvania	213,542	78.8	8.0	13.2
Illinois	255,741	68.6	8.1	23.3	Rhode Island	6,216	80.1	15.9	4.0
Indiana	124,013	76.3	4.4	19.3	South Carolina	93,864	49.7	23.4	26.8
Iowa	185,351	76.2	4.5	19.3	Tennessee	165,650	65.5	11.6	22.9
Kansas	138,561	83.7	3.2	13.1	Texas	174,184	62.4	6.9	30.7
Kentucky	166,453	73.6	10.1	16.3	Utah	9,452	95.4	.6	4.0
Louisiana	48,292	64.8	13.8	21.4	Vermont	35,522	86.6	5.1	7.3
Maine	64,209	95.7	2.5	1.8	Virginia	118,517	70.5	11.3	18.2
Maryland	40,517	69.0	9.6	21.4	Washington	6,529	92.8	3.2	4.0
Massachusetts	38,406	91.8	6.0	2.2	West Virginia	62,074	80.9	6.8	12.3
Michigan	154,008	90.0	3.3	6.7	Wisconsin	134,322	90.9	2.8	6.3
Minnesota	92,386	90.9	1.3	7.8	Wyoming	457	97.1	1.1	1.8
Mississippi	101,772	56.2	17.1	26.7					
Missouri	215,075	72.7	9.2	18.1	Total	4,008,907	74.5	8.0	17.5

